

## **UPPER TRISHULI-1 HEP (216MW)**

Client	Doosan Heavy Industries & Construction
DHI's Subcontractor	Power Construction Corporation of China

### **REPLY COMMENT**

Subcontractor	Power Construction Corporation of China
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#### **Incoming Document**

Title of the Document	<b>Excavation and Initial Support Drawing of Adit No. 3</b>		
Document/Drawing No.	UT1-C-150-CVL-DG-43004 (5 sheets)	Revision	F
Review Document No.	<b>OE/TJ/UT1/OUT-SITE-DHI-020</b>	Reviewed Note No.	<b>RN-0054</b>
Received Date	<b>16.2.2022</b>	Review status	

#### **Outgoing Document**

Previous Reply No.	<b>RC-0002</b>	Previous Reply Date.	<b>21.12.2021</b>
Reply No.	<b>RC-0011</b>	Reply date	<b>31.01.2022</b>

#### **General Comments**

Drawing No. UT1-C-150-CVL-DG-43004-05 was added to this series of drawings and is herewith reviewed. It refers to the junction of Adit No.3 and the Headrace Tunnel. On the other drawings few comments are remaining.

The drawings are marked and commented. The drawings shall be revised and resubmitted with the incorporated comments.

#### **UT1-C-150-CVL-DG-43004-01 (sheet 1/5)**

a) Add to the sentence "this drawing ..... In the execution stage, with written approval of the OE .

**Reply: Accepted.**

#### **UT1-C-150-CVL-DG-43004-02 (sheet 2/5)**

a) Replace the 3m long drain holes with weep holes (for rock slopes).

**Reply: as per slope engineering practice, drainage holes with certain length will have good effect to drain and release the ground water and ground water pressure, especially during rainy season. Contractor proposes to retain this measure.**

b) Provide a note that refers to the early strength requirements as per contract.

**Reply: Accepted.**

#### **UT1-C-150-CVL-DG-43004-03 (sheet 3/5)**

a) Note that the steel ribs at the start and end of the turning bay are only required in Class III, IV and V.

Reply: Accepted.

b) For Class III in sidewalls no rock dowels below 1.5m required. Revise.

Reply: Accepted.

#### **UT1-C-150-CVL-DG-43004-04 (sheet 4/5)**

a) No weep holes in Class I. Omit.

Reply: Accepted.

b) In Class IV there should be no change of shotcrete type from C25 to C30. Use C25 and thickness of 150mm, applied in two layers of 75mm.

Reply: The shotcrete strength is revised to C25. shotcrete thickness 120mm is taken for class IV in consistent with recommendation (agreed by Contractor and OE) of surrounding rock stability calculation.

c) Dowels in sidewalls need to be spaced narrower to take moments from steel rib.

Reply: Accepted.

#### **UT1-C-150-CVL-DG-43004-05 (sheet 5/5)**

a) The junction of the adit and the Headrace Tunnel should be orthogonal ( $=90^\circ$ ), otherwise shuttering for concreting will be very difficult. This requires a change in alignment of the adit shortly before the plug. Redesign.

Reply: Accepted.

b) No dowels in sidewalls close to the tunnel invert required.

Reply: Accepted.

c) Indicate concrete plug.

Reply: Accepted.